

Claims

What is claimed is

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1. A mobile communication base station apparatus comprising a plurality of radio transmission and/or reception sections and a plurality of baseband processing sections comprising a user data stream interface , the plurality of baseband processing sections being arranged in a first stage comprising baseband processing sections connected to radio transmission and/or reception sections, each radio transmission and/or reception section being connected to at least one baseband processing section, wherein
 - the plurality of baseband processing sections is divided into stages, arranged in said first stage and further stages,
 - each stage comprising at least one baseband processing section of said plurality of baseband processing sections, and
 - each baseband processing section of the further stages is connected with at least one baseband processing unit in any preceding stage, such that the baseband processing sections are multistage-connected to the first stage of the baseband processing sections, and
 - each baseband processing section comprises adding means, dropping means, and/or routing means for extraction and injection of baseband data streams and, respectively routing the data streams through the stages.

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2. The mobile communication base station apparatus according to claim 1, wherein the base station is a W-CDMA NODE-B System and

the adding and dropping means control the spreading and de-spreading according to code division multiple access.

- 5 3. The mobile communication base station apparatus according to claim 1, wherein the transmission and/or reception sections are decomposed into receiver modules and transmitter modules.
- 10 4. The mobile communication base station apparatus according to claim 1, wherein the baseband processing sections within one stage are interconnected.
- 15 5. The mobile communication base station apparatus according to claim 1, wherein the stage configuration is a matrix configuration and the number of baseband processing sections in the stages of the baseband processing sections is constant.
- 20 6. The mobile communication base station apparatus according to claim 1, wherein said routing means support load balancing on said interfaces by using corresponding interface connections.
- 25 7. The mobile communication base station apparatus according to claim 1, wherein such apparatus comprises detection means for detecting defect baseband processing sections and said routing means supports fault tolerance by using routing paths avoiding said defect baseband processing sections.
8. A baseband processing section for use in a mobile communication base station apparatus, said baseband processing section comprising an interface for user data streams, wherein said baseband processing

5 section comprises a baseband-processing-section-to-baseband processing section interface for data streams transmitted and/or received between the baseband processing section and one other baseband processing section, adding means for injecting additional data streams to received data stream, dropping means for extracting data streams from received data streams, and routing means for passing resulting data streams over said baseband-processing-section-to-baseband processing section interface.

10 9. The baseband processing section for use in a mobile communication base station apparatus according to claim 8, wherein said baseband processing section comprises adding and dropping means controlling the spreading and de-spreading according to code division multiple access.

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10. The baseband processing section for use in a mobile communication base station apparatus according to claim 8, wherein said baseband processing section comprises baseband-processing-section-to-transmission-and/or-reception-sections-interface for data streams transmitted and/or received between the baseband processing section and transmission and/or reception sections.

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